

## Toeplitz Matrix [\(View\)](#)

Given an  $m \times n$  matrix, return *true* if the matrix is Toeplitz. Otherwise, return *false*.

A matrix is **Toeplitz** if every diagonal from top-left to bottom-right has the same elements.

### Example 1:

|   |   |   |   |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| 5 | 1 | 2 | 3 |
| 9 | 5 | 1 | 2 |

**Input:** matrix = [[1,2,3,4],[5,1,2,3],[9,5,1,2]]

**Output:** true

#### Explanation:

In the above grid, the diagonals are:

"[9]", "[5, 5]", "[1, 1, 1]", "[2, 2, 2]", "[3, 3]", "[4]".

In each diagonal all elements are the same, so the answer is True.

**Example 2:**

|   |   |
|---|---|
| 1 | 2 |
| 2 | 2 |

**Input:** `matrix = [[1,2],[2,2]]`

**Output:** `false`

**Explanation:**

The diagonal "[1, 2]" has different elements.

**Constraints:**

- `m == matrix.length`
- `n == matrix[i].length`
- `1 <= m, n <= 20`
- `0 <= matrix[i][j] <= 99`